

SHEEP CREEK LAKE



Introduction

Sheep Creek Lake, perched on the bluff above Sheep Creek Canyon, is actually in the Beaver Creek Watershed. These creeks flow north out of the the Uintas, then west into the Flaming Gorge. Sheep Creek Lake is a stabilized off stream impoundment that is maintained as a recreational fishery. A campground is on the south

shore of the lake. It is an artificial, off stream lake, receiving water from a diversion of Beaver Creek and other creeks via the Sheep Creek Canal. The lake was created as a reservoir for agricultural use. The Utah DWR purchased the lake in 1959 to provide a permanent stabilized body of water for wildlife habitat and recreation. The shoreline is owned by the Ashley National Forest, and public access is unrestricted. No changes in water use are anticipated.

Recreation

Characteristics and Morphometry

Lake elevation (meters / feet)	2,261 / 8,600
Surface area (hectares / acres)	34.8 / 86
Watershed area (hectares / acres)	898 / 2,218
Volume (m ³ / acre-feet)	
capacity	1,130,000 / 915
conservation pool	0
Annual inflow (m ³ / acre-feet)	
Retention time (years)	
Drawdown (m ³ / acre-feet)	
Depth (meters / feet)	
maximum	5.18 / 17
mean	3.05 / 10
Length (meters / feet)	1,400 / 4,593
Width (meters / feet)	244 / 801
Shoreline (km / miles)	3.11 / 1.9

Location

County	Daggett
Longitude / Latitude	109 50 34 / 40 53 20
USGS Map	Leidy Peak 1963
DeLorme's Utah Atlas & Gazetteer™	Page 56, B-2
Cataloging Unit	Flaming Gorge (14040106)

Sheep Creek Lake is on the north slope road of the Uintas, about 10 miles west of U-44. From near milepost

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on U-44, turn west on the Sheep Creek Geologic Loop. A sign says Sheep Creek Lake 10. Follow the Sheep Creek Road for three miles, then turn west again on a gravel road

also signed to Sheep Creek Lake. This is the Spirit Lake Road. It begins at the southwest corner of the loop. Go west on Sheep Creek Road (FS-221) for about 6 miles to the turnoff for Browne Lake. Continue on the gravel road on the right, which should be marked to the Sheep Creek Lake. The turnoff to Sheep Creek Lake is about 1.5 miles past the turnoff. Follow this road about one mile to the lake.

It is also accessible from the north and west via the state highway from Manila to Mountain View, Wyoming. Access points to forest service lands include roads from Lonetree, Burnt Fork and west of Manila at Antelope Junction. These roads will eventually combine with FS-221 which will lead to the lake. Please refer to a variety of maps for specific direction to the lake.



The lake is maintained solely as a fishery. There is no boat ramp and limited other facilities. Browne Lake Campground has privies, campsites, picnic areas and drinking water.

Watershed Description

Sheep Creek Lake is located on the north slopes of the High Uintas. The natural watershed is extremely small, consisting of a few small hills south of the reservoir. The canal from Beaver Creek carries water in from an area of meadows and coniferous forests. Slopes surrounding the reservoir are nearly level (<5%), but immediately to the north, the land drops down into Sheep Creek Gorge.

The watershed high point, Wayman Park, is 3,250 m (10,660 ft) above sea level, thereby developing a complex slope of 6.6% to the reservoir. The average stream gradient of Beaver Creek is 5.1% (270 feet per mile). The diversion canal is nearly level. The outflow drains down the slope and returns to Beaver Creek.

The watershed is made up of high mountains and mountains meadows. The soil associations that compose the watershed are listed in Appendix III.

The vegetation communities consist of spruce-fir, pine and aspen. The watershed receives 51 - 76 cm (20 - 30 inches) of precipitation annually. The frost-free season around the reservoir is 20 - 40 days per year.

Land use in the watershed is 100% multiple use, with grazing, logging and human recreation being the primary uses. A timber sale is projected for 1993.

Limnological Assessment

The water quality of Sheep Creek Reservoir is fairly good. It is considered to be soft with a hardness concentration value of approximately 41 mg/L (CaCO₃). Although there are no overall water column concentrations that exceed State water quality standards throughout the year dissolved oxygen concentrations during the winter conducted on March 14, 1991 indicates that the dissolved oxygen concentrations ranges from 1.5 mg/L at

Limnological Data

Data sampled and averaged from STORET site:

593806.

Surface Data	1992
Trophic Status	M
Chlorophyll TSI	44.91
Secchi Depth TSI	40.76
Phosphorous TSI	51.94
Average TSI	45.87
Chlorophyll <i>a</i> (ug/L)	4.3
Transparency (m)	3.8
Total Phosphorous (ug/L)	28
pH	8.2
Total Susp. Solids (mg/L)	<3
Total Volatile Solids (mg/L)	1
Total Residual Solids (mg/L)	2
Temperature (°C / °f)	16/61
Conductivity (umhos.cm)	57

Water Column Data

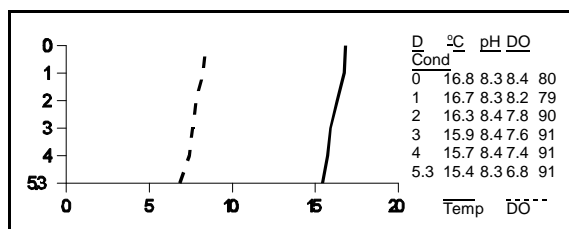
Ammonia (mg/L)	0.13
Nitrate/Nitrite (mg/L)	0.01
Hardness (mg/L)	40.7
Alkalinity (mg/L)	44
Silica (mg/L)	10.0
Total Phosphorous (ug/L)	25

Miscellaneous Data

Limiting Nutrient	N
DO (Mg/l) at 75% depth	7.4
Stratification (m)	NO
Depth at Deepest Site (m)	5.3

the surface to 0.5 mg/L from 1-4 meters at the bottom.

LAKE REPORTS



approaches anoxic conditions. Data from a survey

Current data suggest that the reservoir is currently a nitrogen limited system. TSI values indicate the reservoir is mesotrophic in a state of moderate productivity. The lake lacks sufficient depth to permit stratification as indicated in the August 12, 1992 profile.

According to DWR no fish kills have been reported in recent years, but partial winter kills have been known to occur. The lake supports a population of brook trout (*Salvelinus fontinalis*), cutthroat trout (*Oncorhynchus clarki*), and rainbow trout (*Oncorhynchus mykiss*). The lake has not been treated for rough fish competition, so populations of native fishes may still be present in the lake. Current stocking reports indicate that DWR stocks the lake with 4,000 catchable rainbow trout and 7,000 fingerling brook trout annually.

Phytoplankton in the euphotic zone include the following taxa (in order of dominance)

Species	Cell Volume (mm ³ /liter)	% Density By Volume
<i>Sphaerocystis schroeteri</i>	5.282	69.03
<i>Pediastrum duplex</i>	1.334	17.44
<i>Microcystis aeruginosa</i>	0.734	9.59
Pennate diatoms	0.202	2.64
Centric diatoms	0.080	1.05
<i>Asterionella formosa</i>	0.019	0.25
Total	7.650	
Shannon-Weaver [H']	0.94	
Species Evenness	0.53	
Species Richness	0.23	

The phytoplankton community is dominated by the presence of green algae which is indicative of relatively good water with moderate production.

Pollution Assessment

Nonpoint pollution sources include the following: sedimentation and nutrient loading from grazing; litter and waste from recreation; and sedimentation and increased runoff from logging.

Grazing takes place throughout the watershed and in

the vicinity of the reservoir.

There are no point sources of pollution in the watershed.

Beneficial Use Classification

The state beneficial use classifications include: boating and similar recreation (excluding swimming) (2B), cold water game fish and organisms in their food chain (3A) and agricultural uses (4).

Information

Management Agencies

Uinta Basin Association of Governments	722-4518
Division of Wildlife Resources	538-4700
Division of Water Quality	538-6146
Ashley National Forest	789-1181
Flaming Gorge Ranger District	784-3445

Recreation

Dinosaurland Travel Region (Vernal)	789-6932
Manila Chamber of Commerce	784-3395

Reservoir Administrators

Division of Wildlife Resources, Fisheries Management	538-4812
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